

AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS INC.

LONDON CANADA CHAPTER #116

http://LondonCanada.AshraeChapters.org

Mon Nov 24/2014

BOARD OF GOVERNORS President Ibrahim Simhatl ph: 519-681-1221 e234 ibrahim.semhat@jci.com

Vice President Jorden Foster ph: 519-679-8660 jordan.foster@chorley.com

Secretary Phil Cook ph:226-984-8637 pcook@ehpricesales.com

Treasurer Khalid El-Kadri ph: 519-681-1977 khalid@somersep.com

<u>COMMITTEE CHAIRS</u> Technology Transfer Mike Piluk ph: 519-652-8280 mike_piluk@hotmail.com

Membership Promotion Jeff Watson ph: 519-679-8660 jeff.watson@chorley.com

Research Promotion John Freeman ph: 519-266-3587 jfreeman@gpainc.ca

Student Activities Benjamin Oliver ph: 705-945-0139 ben.oliver@chorley.com

YEA Nikola Zubic ph: 519-679-8660 e240 nik.zubic@chorley.com

Grassroots Gov Activities Jordan Foster ph: 519-679-8660 ibrahim.semhat@jci.com

Newsletter Tom Pollard ph: 519-685-2570 tpollard@execulink.com <u>Topic</u>

THEORY AND APPLICATIONS OF CO2 REFRIGERATION

Gino DiFebo Traning Coordinator and Instructor UA Local 787/ORAC The HVACR Workers of Ontario and The Ontario Refrigeration & Air Conditioning Contractors Association

Meeting - Mon Nov 24/2014

5:15 pm Social 6:00pm Dinner 7:00pm Panel Dsicussion

ASHRAE Member/Guest \$50.00 Student Non-Member \$10.00

ADVANCED PAYMENT BEFORE MEETING by using PAYPAL use the chapter web site to register and pay http://LondonCanada.AshraeChapters.org

location:

FOUR POINTS BY SHERATON 1150 Wellington Rd S. London, Ont



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Presidents Message

Our last month's "**Open Panel Discussion**" event was a great success. I would like thank all the panelists and participants who joined us at the Ivey Spencer Leadership Centre. I would also like to thank all the students that attended this Student themed meeting. We had a total of 60 guests for our meeting which is almost double our monthly average. Once again thank you to Professor Walid Altahan and the ASHRAE Student Chapter.

It gives me great pleasure to inform ASHRAE London Chapter members that the **Upper Thames River Conservation Authority** has been selected as a **"Second Place Winner"** of an "ASHRAE Technology Award" in the other Institutional Buildings – New Category. The ASHRAE Technology Award Program recognizes outstanding achievement in the design and operation of energy efficient buildings. The form of the award is a plaque for winning entrants and building owners. The building will be featured in the March 2015 issue of the ASHRAE Journal......*Congratulations to Upper Thames River Conservation Authority staff and all project participants*.

The theme for our November ASHRAE Chapter meeting will be **Research Promotion (RP)**; our RP Chairs Jamie Kruspel and John Freeman will be providing an update on our campaign this year. Our speaker this month is **Gino DiFeb** from **JTAC 787** and he will be speaking in regards to "**CO2 Refrigeration**".

Just a reminder that there will be no scheduled December Chapter meeting. However our Chapter Board of Governors and Chairs will be hosting a Social Gathering to celebrate the Holiday Season. More details will be communicated in an upcoming email. Please feel free to join us!

I look forward to seeing you all at our upcoming chapter meetings.

Thank you.

Ibrahim M. Semhat Chapter President 2014/2015 ASHRAE London Canada Chapter

Upcoming Chapter Meetings

Jan 19/2015 - Problem solving, leading and thinking like an engineer Feb 23/2015 - Career opportunities for students in ASHRAE Mar 23/2015 -April 23/2015 - ASHRAE WEBCAST, Retro-commissioning and the Life Cycle Cost Analysis Apr 27/2015 - Techical Tour June 1/2015 - Golf Tournament

Other Meetings

Jan 24 to 28, 2015 - ASHRAE Winter Conference - Chicago, IL June 27 to July 1, 2015 = ASHRAE Annual Conference - Atlanta, GA Jan 23 to 27, 2016 = ASHRAE Winter Conference - Orlando, FL Jun 25 to 29, 2016 = ASHRAE Annual Conference - St. Louis, MO Jan 28 to Feb 1, 2017 = ASHRAE Winter Conference - Las Vegas, NV



<Jordan.Foster@chorley.com>



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STUDENT ACTIVITIES & YEA

Young Engineers in ASHRAE (YEA) and Student Activity (SA) are meeting at **North Palasad Complex** on *Thu Nov 20, 2014* at 7:30pm for a night of entertainment with friends, colleagues, and industry personnel.

Hopefully you will be able to join us and continue the strong momentum from our previous Ultimate Frisbee event.

Thanks, Ben Oliver Student Activities Chair 2014/2015 ASHRAE London Canada Chapter

MEMBERSHIP

Greetings from the Membership Chair,

Our current chapter member total is 133 members, which is a net gain of 3 members since the start of the 2014-2015 ASHRAE year. We have had an up and down year so far, with new members joining and old members cancelling or transferring to another chapter.

I would like to take this opportunity to formally welcome four new members that have joined since the first chapter meeting in September:

Jay Dillman, Dwight Reid, Sina Salehi and Simon Pieta.

I continue to encourage all of our existing members to renew their membership and I would like to ask that you all help me promote this wonderful organization that has helped us throughout our careers. If there are employees, co-workers, or acquaintances that you feel would benefit from ASHRAE Membership then I encourage you to pass their information on to me.

I look forward to seeing you all at the next meeting.

Best Regards, Jeff Watson Membership Promotion Chair 2014/2015 ASHRAE London Chapter

RESEARCH

Thanks to everyone for their amazing support in 2013-2014. Combined with the support for ASHRAE CRC, 2013-2014 was banner year for contribution and it is our goal to keep that momentum this year. The Board of Governors has taken a leadership position and already tripled our "Full Circle" commitment. Any contribution you wish to make would be greatly appreciated.

Join us at our November 24 chapter meeting as we will be recognizing our 2013-2014 supporters. John and I will also be presenting some new ASHRAE Funds that can be supported in addition or in place of Research:

Education & Learning Institute Endowment Research Promotion Young Engineers in ASHRAE

The London Chapter is a leader within ASHRAE as we have one of the higher contributions per member ratios in the Society. This demonstrates the passion and support we have for a sustainable future in our area.

See you next week!

Jamie Kruspel and John Freeman Research Co-Chairs 2014/2015 ASHRAE London Chapter

| Daryl Somers, <i>cet</i> | |
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| 96 Meg Drive, London, Ontari <i>Phone:</i> 519-681-1977 <i>Fax:</i> 5 <i>Email:</i> daryl@somersep.com | o N6E 3T7 i19-686-9324 <i>Cell:</i> 519-670-7720 |
| District Ma TRANE Trane Can 8 Belleisle London, O Tel 519 4 Fax 519 4 Windsor Te | nada Court 153 3010 |
| Jason Vandenberghe Tech | |
| Sales & Marketing Inc. 4390 Paletta Court Burlington Bus: (905) 631 5815 Fax: (9 G.T.A. Bus: (647) 288 0980 Email: jasonv@aquatech.ws www.aquatech.ws | 205) 637 8655 |
| Sales & Marketing Inc. 4390 Paletta Court Burlington Bus: (905) 631 5815 Fax: (9 G.T.A. Bus: (647) 288 0980 Email: jasonv@aquatech.ws | 9, ON L7L 5R2 205) 637 8655 Cell: (519) 670 8066 |
| Sales & Marketing Inc. 4390 Paletta Court Burlington Bus: (905) 631 5815 Fax: (9 G.T.A. Bus: (647) 288 0980 Email: Jasonv@aquatech.ws www.aquatech.ws www.aquatech.ws WWW | NON L7L 5R2 2005) 637 8655 Cell: [519] 670 8066 |
| Sales & Marketing Inc. 4390 Paletta Court Burlington Bus: (905) 631 5815 Fax: (9 G.T.A. Bus: (647) 288 0980 Email: jasonv@aquatech.ws www.aquatech.ws WWW | , ON 17L 5R2 205) 637 8655 Cell: [519] 670 8066 Тоll Free: (800) 341-3 |



SPEAKER BIO

Gino DiFebo

Training Coordinator and Instructor, UA Local 787/ORAC

Gino DiFebo is presently the Training Coordinator for the JTAC 787. The JTAC is a joint labour and management venture having a common goal of continuous education for Heating, Ventilating, Air Conditioning and Refrigeration apprentices and journeypersons, throughout the Province of Ontario. The JTAC is a training delivery agent for the United Association Local 787 HVACR Workers of Ontario, the Ontario Refrigeration and Air Conditioning Contractors Association, the Ontario Ministry of Training, Colleges and Universities/Ontario College of Trades, the Technical Standards and Safety Association and The Ontario Ministry of the Environment. The full time day programs entail instruction in the mandatory six month in school portion of the certified trades 313A and 313D. Other duties include course development and assisting in the administration of the JTAC. Gino has been employed with the JTAC, as a part time instructor since 1989 and in May of 1999 became employed as a full time instructor and Assistant Training Coordinator, being promoted to Training Coordinator in December 2003.

Gino has been involved in the HVACR industry since 1978, a member of UA Local 787 since 1989 and a graduate of the UA Instructor Training Program as of 1994. Prior to involvement in the HVACR industry, Gino had worked in the construction sector in partnership with his family. Upon graduating from the Mechanical Engineering (Solar Energy) Technologist Program at Humber College of Applied Arts and Technology in 1981, he was sequestered by Humber College to develop and implement practical labs for their HVACR and Energy Technologies programs. During his tenure with Humber, Gino was involved in various facets of maintaining and developing of the HVACR program, including budgeting, course development and instruction. In 1989, Gino joined a major HVACR equipment manufacturer's service department and obtained his Inter-provincial 313A license with a Red Seal endorsement. In 1990 he received his G1 gas technician certificate. During his tenure with Trane Air Conditioning, his duties included customer training, guest speaker at various seminars, process systems design & installation, Building Automation Systems and new equipment commissioning, along with servicing of HVACR equipment and systems.

Gino became a member of the Refrigeration Service Engineers Society in 1984 and has acted in various executive capacities with both the Local, Ontario Maple Leaf Chapter and as a director with RSES Canada. Gino is a past Associate Member of ASHRAE. Gino has been a member of the Advisory committee for Humber College's Sustainable Energy & Building Technology Program and continues to work with the College program staff as required. Gino continues to be a member of the Canadian Standards Association B52 Mechanical Refrigeration Code Committee since 2005. As a member of this committee Gino has been actively involved in various task forces including the development of a code addendum for Refrigerant 744 (carbon dioxide) refrigeration systems. The most recent venture involving the B52 included extensive re-development of the Maintenance Section of the 2013 B52 Code.

Other involvement within the HVACR industry includes serving with the Ontario Provincial Advisory Council for the Refrigeration and Air Conditioning Trade, development of Inter-provincial Refrigeration Certification exams (see below), development of the Trade 313A ICI (Industrial, Commercial and Institutional) and Trade 313D Residential Air Conditioning MTCU in school challenge exams and curriculum. Gino has also been a Federal and Provincial judicator for the HVACR Skills competitions, along with developing many of the skills competency challenges for the competitions.

Gino has developed lesson plans and lab manuals for, and delivered over 90% of the 313A/313D curriculum since 1999. He serves with the Ontario Ministry of the Environment's Air Quality Branch in the capacity of specialist for Ozone Depletion Prevention, having assisted in the development and editing of the Provincial ODP certification exams. He has developed the JTAC's ODP and Federal Halocarbon programs and continues to deliver those programs. Gino has provided training for Environment Canada's enforcement officers along with providing Environment Canada's enforcement officers practical expertise when required. Other programs and curriculum developed by Gino, include the following: 313A - C of Q preparatory program, 313D - C of Q preparatory program, Electrical Troubleshooting for the HVACR Industry, Reciprocating Compressor Service and Maintenance, New Refrigerants and Piping Technologies, Centrifugal Chiller Operation and Maintenance for the Insurance Industry and Indoor Air Quality for the Commercial Building. Additional classes delivered include HFC 410A and Refrigerant Replacements, Centrifugal Compressor Tear Down courses and Local 787's night school program (Levels I, II and IV).

Gino, in conjunction with Industry partners, has developed and delivers the JTAC 787/ORAC's R744 Training Program and most recently he designed an R744 Training System, which in conjunction with Emerson Technologies and LMP (Lesage Manufacturing Products) is presently being manufactured. There will be a total of 4 training systems manufactured for practical training across Canada and at the UA's Training Centre at Washtenaw Community College.

He has taught R744 System's Technologies at the UA's Instructor Training Program for the past two years and was involved in the delivery of the UA's Building Automation System's Program for several years. Examination development:

* Assisted in the development of the 1990 313A certification exam

* Assisted in the development of the 2003 313D certification/challenge exam

* Assisted in the development of the Ontario Ministry of the Environment's Ozone Depletion Prevention (Refrigerant Handling) Certification exams

* Assisted in the development of several United Association of Pipe fitters and Mechanical Service Contractors of America Mastery exams, including: Residential and Light Commercial Air Conditioning, Commercial Refrigeration and HVACR Commissioning Mastery Exams

* Developed and continues to develop many tests and exams for the MTCU/OCOT, 313A in class delivery component, since 1999, for all three levels and Level 1 313D

* Assisted in the development of the 2014, 313A Red Seal Certification exam

On a personal note, Gino is actively involved within his community:

* Family oriented and proud father of 5 children

* having coached, assistant coach or trainer to over twenty minor hockey teams over the years member of the minor hockey executive of his



local association for a period of 5 years.

- * recently over the previous two winters, coached Junior curlers until a leg injury sidelined him for last season
- * sat on the local secondary school's Parent Advisory Council.

* enjoys curling and volleyball throughout the winter months and helps maintain the curling ice as well sits on the King Curling Club Board of Directors

* actively involved in our church, providing building and grounds maintenance and fund raising efforts such as holding an annual Pasta Supper since 2006

Above all, I believe in success and learning being symbiotic: every person who walks through the doors of the JTAC Training Centre, will succeed and that Learning must be fun. This is the same attitude I use with all of my students and the youth I have coached over the years. Our school motto is: "If You Walk Through These Halls With a Positive Attitude, You will Leave with the Greatest Gift of AllKnowledge"

Importance of Refrigeration - and Ice Cream - Focus of ASHRAE Conference Workshop

ATLANTA - From Cherry Garcia to Sea Salt Caramel, Americans love their ice cream. Nearly 9 percent of cow's milk produced in the United States goes toward making ice cream, and America is the number one consumer worldwide. What better way to illustrate the importance of refrigeration technology, than to explore the process of making this country's favorite frozen treat? Doug Reindl and Dan Dettmers' workshop, "I Scream, You Scream, We All Scream for Refrigeration Basics of Ice Cream," is part of the Technical Program at ASHRAE's 2015 Winter Conference. The Conference takes place Jan. 24-28, Palmer House Hilton, while the ASHRAE co-sponsored AHR Expo is held Jan. 26-28, McCormick Place. Complete Conference information and registration can be found at: www.ashrae.org/chicago. The session explores the process of making ice cream, leads attendees through the cooling load calculations and finishes up with a chance to participate in the ice cream making process. One catch, however. Attendees have to correctly calculate the cooling load before they can taste the final product, which will be made cryogenically. The workshop starts at 8 a.m. Sunday, Jan. 25. "We want to reach a younger audience to interest them in the 'R' in ASHRAE - refrigeration," Reindl, a speaker at the session, said. "We thought this would be an out of the box way to show them about processes, the science, taste and texture of food, home refrigeration." His presentation will focus on the methods and cooling loads encountered in the ice cream industry. Session chair Dan Dettmers notes that while ice cream is one of the simple pleasures of life, it also is one of the most complex frozen products available today. "Unlike ice, which freezes in a crystalline structure, ice cream is an amorphous solid similar to glass," he explained. "Its structure is primarily air held in a complex lattice of sugars and fats. Likewise, the process of producing ice cream is far more complex than most frozen foods with variations from traditional ice cream to frozen novelty bars and cakes."

Other sessions related to refrigeration include:

Energy Use Analysis in Retail and Small/Medium Office Applications, Sunday, Jan. 25 Alternative Refrigerants for Residential Refrigerator-Freezers, Sunday, Jan. 25 Walgreens Pursuit of a Net-Zero Store, Sunday, Jan. 25 Refrigeration for Craft Brewing, Monday, Jan. 26 Demand-Defrost Controller for Walk-in Boxes, Monday, Jan. 26 Energy Efficiency of Novel and Conventional Compressors using Low-GWP Refrigerants, Tuesday, Jan. 27 Environmentally Sound Refrigeration, Wednesday, Jan. 28 Supermarket Hot Gas Defrost Piping Guidelines for Best Performance, Wednesday, Jan. 28 Energy Reducing Design Developments for Ice Arenas, Wednesday, Jan. 28



Winter Conference January 24–28

> AHR Expo January 26–28



<u>2015 Winter Conference</u> Jan. 24-28/2015 Palmer House Hilton, Chicago, IL

<u>AHR Expo</u> <u>Jan. 26-28</u>/2015 <u>McCormick Place, Chicago, IL</u>

ASHRAE is excited to return to Chicago for the 2015 Winter Conference, its historically best-attended event. Attendees can discuss the latest topics in the building industry; participate in technical tours; attend ASHRAE Learning Institute courses; earn professional credits; and obtain ASHRAE certifications. Chicago also serves as the site of the AHR Expo, co-sponsored by ASHRAE and held in conjunction with the Winter Conference.

The two events combine to create the ideal atmosphere for those interested in advancing the building industry to network, inspect the latest technology and learn about the newest practices for the built environment. Don't miss the chance to participate!





Building Energy Quotient (bEQ) is a building energy rating program that provides information on a building's energy use. Two separate workbooks, one evaluating As Designed potential and the other assessing In Operation performance, form the foundation of bEQ. bEQ rests on ASHRAE methodologies and standards and the experience of qualified practitioners. These characteristics distinguish bEQ and assure Owners that they are receiving reliable and consistent results and recommendations.

Jordan Foster, P.Eng., LEED AP BD+C Chapter Vice President 2014/2015 ASHRAE London Canada Chapter

First BEQ Rating Awarded In Asia

ASHRAE recently awarded its first building energy quotient (bEQ) rating in Asia.

The building, KPMG Center located in Makati City in Manila, Philippines, is a mixed-use commercial building with office spaces and foot court/service. It earned an In Operation rating of C or "average." The building has a measured site energy use intensity (EUI) of 59.4 kBtu/square foot per year; and measured source EUI of 186.6 kBtu/square foot per year.

"On behalf of the builder owner, we are pleased to achieve this milestone in the bEQ program," Ross Montgomery, P.E., BEAP, who submitted the rating, said. "This speaks to the interest in improving building and system performance around the globe."

Montgomery, who is chair of the bEQ committee, also notes that the Philippines Green Building Initiative has embraced the bEQ program to be used as credit toward the energy requirements of its green building rating.

Other countries in which buildings have earned ratings under the program include the United States, Mexico, Canada and Bermuda. So far, 13 buildings have earned a rating, according to Montgomery.

The bEQ program, a consistent, comprehensive and accurate method of rating and labeling buildings based on energy use, offers two rating labels: an As Designed label that rates the building's expected energy use under standardized conditions—independent of some of the building's occupancy and usage variables—and an In Operation label that rates the building's actual metered energy use as influenced by the building's occupancy, structure and usage.

ASHRAE is offering a four month limited offer to qualified ASHRAE members, allowing them to submit for two ratings with no registration/submission fee from July 30, 2014, until Nov. 30, 2014.

The offer is extended to ASHRAE members who are certified by ASHRAE as Building Energy Assessment Professionals (BEAP) or Building Energy Modeling (BEMP) Professionals, or professional engineers (PE) licensed in the jurisdiction where the rated building is located.

For more information on the offer, visit www.buildingenergyquotient.org.

ASHRAE 2015 Winter Conference Technical Program: New Tracks Address Industry's Big Needs

With more than five new tracks, 100 sessions and 400 speakers, the Technical Program at ASHRAE's 2015 Winter Conference capitalizes on the wide range of systems, equipment and applications in the Chicago area to present several relevant and timely programs. "With the Conference being held in the big city of Chicago, the Technical Program itself is going big with a focus on big projects, the big picture and big impacts with the intent of presenting big results for engineers, contractors, manufacturers and building professionals," Doug Cochrane, Conference chair, said. The Conference takes place Jan. 24-28, Palmer House Hilton, while the ASHRAE co-sponsored AHR Expo is held Jan. 26-28, McCormick Place. Complete Conference information and registration can be found at www.ashrae.org/chicago, and Expo information at www.ahrexpo.com. The Technical Program begins Sunday, Jan. 24, with special hour-long interactive sessions with audience participation, followed by a networking coffee break. It concludes Wednesday, Jan. 28. The Technical Program offers over 200 Professional Development Hours, as well as Continuing Education Units, which can be applied toward a Professional Engineering license. The Conference features papers and programs for eight tracks, which address trends in the industry and also are relevant to the design community in the area.

The tracks are:

* Systems and Equipment: The proper selection of HVAC&R for a job is critical. This track covers considerations for a proper functioning system.

* Fundamentals and Applications: Basic HVAC&R principles are key in any project. Knowing what they are helps to apply in specific projects. This track covers a broad array of pertinent information.

* New! Industrial Facilities: Manufacturing and processes can have different requirements for HVAC&R. This track explores design and practices for industrial buildings.

* New! Large Buildings: Mission Critical Facilities and Applications: Facilities like data centers have different characteristics. This track looks at what is required for these unique applications.

* Energy Efficiency: Energy efficiency is on everyone's mind as energy costs continue to rise. This track covers an array of considerations to help drive toward net zero energy.

* New! Life Safety: This encompasses egress, sprinklers, alarms, emergency lighting, smoke barriers and special hazard protection. This track provides the tools for all the factors to consider in life safety and lessons learned.

* New! Design of Energy and Water Efficient Systems: The trend is to green sustainable buildings. This track looks at what works and what doesn't to attain these efficient systems.

* New! Hospital Design and Codes: Healthcare design takes into account some unique aspects. This track explores design and code requirements to ensure patient comfort.

YEA/STUDENT SOCIAL 2014 NIGHT @ NORTH PALASAD COMPLEX

2013 WINNER

winner! Best Family Entertainment!

S FREE COUPONS

Get on the List!



alasad

You are invited to attend a night of entertainment with friends, colleagues and industry personnel at the North Palasad Complex. This event is brought to you by the Young Engineers in ASHRAE (YEA) and the Student Activities Chair. The event will be held in collaboration with the London ASHRAE Student members.

We will be meeting at approximately 7:30 PM on Thursday, November 20th 2014.

Hopefully you will be able to join us and continue the strong momentum from our previous Ultimate Frisbee event.

Sincerely, The YEA Committee/Student Activities

